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Amendments to the Claims

1. (Currently amended) A gas turbine engine combustor comprising:
an inboard wall;
an outboard wall; and
a forward bulkhead extending between the inboard and outboard walls and cooperating therewith to define a combustor interior volume,
wherein, in longitudinal section, a first portion of the combustor interior volume converges from fore to aft and a second portion of the combustor interior volume, aft of the first portion, converges from fore to aft more gradually than the first portion.
2. (Original) The combustor of claim 1 wherein:
said first portion represents at least 25% of the interior volume; and
said second portion represents at least 35% of the interior volume.
3. (Original) The combustor of claim 1 wherein:
said first portion represents at least 35% of the interior volume; and
said second portion represents at least 50% of the interior volume.
4. (Original) The combustor of claim 1 wherein:
said first and second portions, in combination, represent at least 80% of the interior volume.
5. (Original) The combustor of claim 1 wherein:
said first and second portions, in combination, represent at least 90% of the interior volume.
6. (Currently amended) The combustor of claim 1 wherein:
the inboard wall has a first portion and a second portion aft of the first portion and at a longitudinal interior angle ~~thereto~~ to the first portion of the inboard wall of between 180° and

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210°; and

the outboard wall has a first portion and a second portion aft of the first portion and at a longitudinal interior angle ~~thereto~~ to the first portion of the outboard wall of between 180° and 210°.

7. (Original) The combustor of claim 1 wherein the inboard and outboard walls each have an exterior shell and an interior multi-panel heat shield.

8. (Currently amended) A gas turbine engine combustor comprising:
an inboard wall;
an outboard wall; and
a forward bulkhead extending the inboard and outboard walls and cooperating therewith to define a combustor interior volume,
wherein, at least one of the inboard wall and the outboard wall has a first portion and a second portion aft of the first portion, the second portion and at a longitudinal interior angle to the first portion ~~thereto~~ of between 185° and 210°.

9. (Currently amended) The combustor of claim 8 wherein the other of the inboard wall and the outboard wall has a first portion and a second portion aft of the first portion of said other, the second portion of said other and at a longitudinal interior angle ~~thereto~~ to the first portion of said other of between 185° and 205°.

10. (Original) The combustor of claim 8 wherein in longitudinal section the inboard and outboard walls consist essentially of a plurality of straight sections.

11. (Currently amended) A method for engineering a gas turbine engine combustor having an inboard wall, an outboard wall, and a forward bulkhead extending the inboard and outboard walls and cooperating therewith to define a combustor interior volume, wherein, in longitudinal section, a first portion of the combustor interior volume converges from fore to aft and a second portion of the combustor interior volume, aft of the first portion, converges from fore to aft more

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gradually than the first portion, the method comprising:

selecting a degree of convergence of the first portion so as to provide a desired low first portion residence time; and

selecting a degree of convergence of the second portion in combination with selecting introduction parameters for process air so as to provide a desired low generation of NO_x.

12. (Original) The method of claim 11 wherein the selection of said degrees of convergence and parameters of introduction for process air are varied to provide a desired short quench zone.

13. (Original) The method of claim 11 wherein the engineering serves to reduce said generation of NO_x relative to a baseline combustor being reengineered or replaced.